

# **FORAGE SUITABILITY GROUP**

## **Sandy, Dry (AWC 3-6")**

**FSG No.: GO34XA011WY**

**GO34XB011WY**

**Major Land Resource Area (MLRA) :** 34 - Central Desertic Basins, Mountains, and Plateaus

### **Physiographic Features**

This area is considered the Central Desert Basins, Mountains and Plateaus with slightly more than half of the area being federally owned. The remainder of the area is privately owned. The elevation ranges from 6,234 to 7,218 feet (1,900 to 2,200 meters). The area spreads from alluvial fans and slopes to surrounding mountains with broad intermountain basins. Water is scarce and ground water supplies are meager and little developed. Most of the area is used for cattle and sheep grazing with some hay and pasture along the streams.

### **Climatic Features**

This area is classified as semi-arid. Annual precipitation ranges from 7 - 14 inches per year. Maximum precipitation occurs in the spring and fall. Relative humidity is low. The prevailing winds on the high plains are from the southwest during the fall and winter and from the southeast during the spring and summer with the highest average wind velocities during the fall and winter.

Temperatures are subject to wide ranges, both seasonal and day to night. The high elevation of the plains and the dry air in this area permit large amounts of incoming and outgoing radiation, giving rise to warm days and cool nights. Late spring and early fall freezes are common, because of the cold air outbreaks from Canada, high elevation and rapid nighttime cooling. Sunshine is quite abundant with few days during the year without some sunshine.

For further climatic information look in the Field Office Technical Guide, Section I, Climatic Data, or refer to the National Water and Climate Center web page at <http://www.wcc.nrcs.usda.gov>.

### **Soil Interpretations**

This group consists course textured soils. They can be found on nearly level to moderately steep slopes. These soils were formed in wind-laid sandy material. The sandy soils are easily worked, and have a pore-size distribution that results in poor water retention. These soils have a water holding capacity (AWC) of 3 to 6 inches in 60 inches of root depth. The permeability class is rapid.

The soil survey maps were completed for the purposes of developing plans for tracts of land and can not be used to determine the soils on or the suitability of a specific site. Consequently, small areas of significantly different soils are not identified on the maps and may occur in any map unit.

Refer to Appendix A, Forage Suitability Group Rules in Section II, of the Field Office Technical Guide, Pastureland and Hayland Interpretations for the parameters used in grouping the soils.

### **Soil Map Unit List**

For a complete listing of soil components and what Forage Suitability Group the soil is in, refer to Appendix B, Section II of the Field Office Technical Guide, Pastureland and Hayland Interpretations.

## Adapted Species List

Refer to Appendix C, Adapted Species for Forage Suitability Groups in Section II of the Field Office Technical Guide, Pastureland and Hayland Interpretations.

## Production Estimates

Production estimates are based on management intensity and should be considered as estimates only. The estimates should only be used for making general management recommendations. On site production information should always be used for making detailed planning and management recommendations when available.

### 7 - 9 Precipitation Zone

**Irrigation:** The expected production for alfalfa would range from 2 to 4 tons per acre. The expected production for grass would be from 2,000 to 4,000 pounds per acre.

**Dryland:** The expected production for grass would be from 150 to 400 pounds per acre. Legumes are not suited.

### 10 - 14 Precipitation Zone

**Irrigation:** The expected production for alfalfa would range from 2 to 4 tons per acre. The expected production for grass would be from 2,000 to 4,000 pounds per acre.

**Dryland:** The expected production for grass would be from 400 to 800 pounds per acre. Legumes are not suited.

Production on pastures in many instances is species dependent and depends if the pasture is a single species pasture or a mixture of grass species.

## Forage Growth Curves

Refer to Appendix D, Section II of the Field Office Technical Guide, Pasture and Hayland Interpretations.

## Management

The relationship between soils, vegetation and climate on any given site is historically driven by the ability of the plants to grow and change as conditions warrant and has allowed various species to express themselves naturally. Under agronomic conditions, production-enhancing practices have altered the original limits of the biomass production. The modification of growth factors, customized selection of species and wise use of a variety of management practices have the potential to produce yields and quality far superior to those found in the native state.

These soils when in forage management system should see organic matter at a steady or a slowly climbing state. If erosion from either wind or water is a concern, the current erosion prediction tool should be used to ensure that the erosion concern is addressed properly. Refer to the pasture and hayland planting standard or the forage harvest standard in the Field Office Technical Guide, Section IV for further management information.

## FSG Documentation

The sandy soils have a slight hazard to water erosion but the hazard to wind erosion is severe. When planting these soils to hay and/or pasture, special care may be required to ensure adequate residue cover after planting to reduce the amount of wind erosion.

### Data References:

Agriculture Handbook 296 - Land Resource Regions and Major Land Resource Areas  
Natural Resources Conservation Service, National Water and Climate Center (NWCC)

National Soil Survey Center, National Soil Information System (NASIS)  
National Range and Pasture Handbook  
Natural Resources Conservation Service, Field Office Technical Guide (FOTG)  
Various Agriculture Research Service (ARS), Cooperative Extension Service (CES), and Natural Resources  
Conservation Service (NRCS) information on plant trials for adaptation and production.  
"Dryland Pastures in Montana and Wyoming" Species and Cultivars, Seeding Techniques and Grazing  
Management, Montana State University, EB19

**State Correlation:**

This site has been correlated with the following states:  
Colorado

**Forage Suitability Group Approval:**

<u>Original Author:</u>	Douglas A. Gasseling, CPAg, CPESC, CCA
<u>Original Date:</u>	7/17/01
<u>Approval by:</u>	Paul Shelton
<u>Approval Date:</u>	8/27/01